• reporting and statistical methods;
• tabular method;
• automated method of passenger traffic examination.

Summing up it should be noted that passenger traffic prognostication is based on the regularities derived from field surveys of population movement as well as on theoretical models. The latter are very promising. They take into account the factors that contribute to the growth of passenger traffic (population size, density, degree of motorization, social structure, the level of well-being) or restrain it (the amount of time, range, cost of travel, etc.). Established correlations between the characteristics of the settlement and its inhabitants behavior when choosing the mode of transport and the solution of other transport issues. This takes into account the actual traffic situation i.e. the density of the transport network, provision by vehicles, traffic intensity and others. Taking into consideration the difficulty of these parameters predicting at the stage of transport calculations a heuristic design is used.

WAN TECHNOLOGIES

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WAN Wide Area Networks (WAN) relating to territorial computer networks, designed to provide services to more users located in a large area. WAN are computer networks of local networks and on-sensible computers, remote from each other over long distances. The most famous and popular global network - the Internet. In addition, global computer networks include: non-profit global network FidoNet, CREN, EARNet, EUNet and other global networks, including corporate.

The paper deals with devices used for the organization of the global networks, such as:

- Routers, providing a large number of services, including interworking and interface ports WAN.
- Switches that connect the band to transmit voice, data and video.
- Modems that serve as an interface for voice services; channel control unit / digital service unit (channel service units / digital service units, CSU / DSUs), which is an interface for the service T1 / E1; terminal adapters and terminal network devices 1 (terminal adapter / network termination 1, TA / NT 1), which serve as an interface for services digital network with integration of services (Integrated Services Digital Network, ISDN).
- Communication Servers, which concentrate the incoming and outgoing user connections dialup connection.

To ensure the efficient operation must be adhered to the standards in the WAN protocols. WAN physical layer protocols describe how to provide electrical, mechanical, operational and functional connection to the WAN-services. Typically,

these services are provided by service providers WAN (WAN service providers), such as telecom operators. WAN data-link protocols describe how frames are carried between systems on one data link. These include protocols to ensure the work of the service through the two-point and multi-point communications as well as service multiple access dial-type Frame Relay.

Because of the high cost of infrastructure, there is an urgent need for transmission over a single network of all types of traffic, resulting in the company. To support multimedia traffic types are special technologies: ISDN, B- ISDN.

References

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ADVANCING MULTI-MODAL TRANSPORTATION SYSTEM BY SOLVING COMPLEX LOGISTICS PROBLEMS WITH MULTIPLE ARTIFICIAL INTELLIGENT SYSTEMS

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Keywords: decision support system, logistics flow enhancement, linear and non-linear programming, graph theory, rail transportation engineering and management, railway traffic operation, inter- and multi-modal haulages, case studies.

The railway transportation system, which has become more information intensive, more global and more technologically dependent, is undergoing colossal changes. The role of logistics is also becoming more and more important. In logistics, the objective of service providers is to fulfill all customers' demands while adapting to the dynamic changes of logistics networks so as to achieve a higher return on investment. In order to provide high quality service, decision support systems become extremely and vitally important at proceeding of planning and scheduling of rail carriages. In particular, artificial intelligence (AI) technologies have achieved significant attention for enhancing the agility of supply chain management, as well as logistics operations. A multi-artificial intelligence system is to provide quality logistics solutions to achieve high levels of service performance in the logistics industry. The new feature of this agile intelligence system is characterized by the incorporation of intelligence modules through the capabilities of the case-based reasoning, multi-agent, fuzzy logic and artificial neural networks, achieving the optimization of the performance of organizations.

Multi-modal transportation is a logistics problem in which a set of goods have to be transported to different places, with the combination of at least two modes of transport, without a change of container for the goods. The main goal of this paper is to introduce TIMIPLAN, a new application to solve multimodal transportation problems. TIMIPLAN has been developed in the context of a research project